Format Validation Tool
ING Commercial Banking

Help instructions and additional information

For Payment and collection formats

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This document is meant for both ING internal employees and ING customers

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1. Introduction

The Format Validation Tool (FVT) is a supporting tool which can help your organization or department with the implementation of:

1. New customers using ING formats for the first time
2. Existing customers wanting to use new ING formats
3. Existing customers changing their current ING formats
4. Existing customers with issues in their current ING formats

FVT will help you to functionally test your implemented formats. Please bear in mind that a successful functional test within this tool is not a guarantee for a successful run within ING. FVT can locate 95% of the errors in a file, but some parameters can't be checked by FVT. (f.i. a check on whether the customer is authorized to do a certain type of payment is not possible).

For more information about FVT you can contact your local customer support desk or your ING implementation manager.

2. General information

2.1 Validation process
File formats that are validated in this tool follow the same process, no matter what format is being tested.
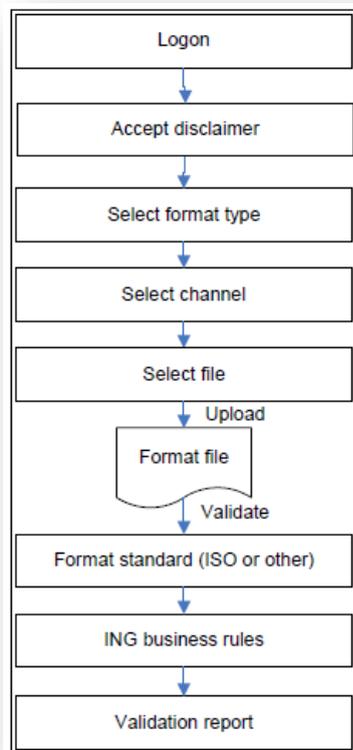
1. Login with the credentials you received from ING and start using the tool.
2. You are asked to accept a disclaimer before using the tool. Click "Accept" to proceed.
3. Select the format type you wish to use for validation. This is the type you used to create your file.
4. Set the correct parameter for correct validation. This parameter is the channel.
5. Select the file you wish to validate. This file is of the same type as the file type you selected earlier.
6. The format file is uploaded to the tool together with two parameters (described further in the help instructions). The first validation step is done against the official standard of that format (if applicable). The majority of the possible errors will be found in this step.
7. The second validation step is a validation of the file against the ING business rules. The ING business rules are specific ING instructions which have been added to the format guidelines to assure that an offered file will be processed by ING systems.

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8. The third validation step is the presentation of a report which shows that FVT approves the file or which shows an overview of all found errors in the different sections of the file.

All validation steps are described in more detail in the next paragraphs. All manual steps to be performed by the user of the tool are described in the next chapter.

2.2 Validation in three steps

Validate against format standard
The format standard stands for the latest official standard set up by the founding organisation which is used as the basis for the ING specific format. For example, the ING PAF XML is based on the ISO20022 standard for SEPA XML. The first validation is against the standard.
If a file does not comply with the standard it will not be accepted by the ING systems. This first step validates 80% of the file.

Validate against ING business rules
The ING business rules are the specifications ING added to or changed in the standard to make it suitable for the ING systems and ING products. The second validation is against these specifications. This second step validates the other 20% of the file.

Report findings
After all validation steps are performed, a report will be created. This report is divided in four sections; a summary, the structure findings, the file header findings and the actual payment findings.
1. The introduction explains if a validation was successful or not, by presenting a small summary. The summary shows:
   a. A red cross or a green check mark.
   b. The name of the format type which was validated.
   c. The total number of transactions found.
   d. The total amount of all transactions found.
   e. The total number of errors* found.
   f. The total number of warnings* found.

*The difference between **errors** and warnings is that errors will block processing. **Warnings** are informative and won't block processing.

2. The structure findings are all findings that are related to the sequence of the records, if a record is available within the standard (and complies with the standard) and if a record is or is not supported by ING (this last type results in a warning). Structure findings are validated separately. If an error occurs in the structure in 90% of the cases the validation process does not start with the next validation area, because structure errors can affect the whole format file. Always validate your file again after adjusting structure errors.

    Note: Structure validation is done against the ISO20022 standard. This means the report could show alternatives for a record it does not recognise or it misses which are not in the ING guidelines. If such an error occurs always advise the ING guidelines for the correct alternative.

3. The header section is validated separately as an error in the header section can result in errors in all payments afterwards. Therefore errors in the header section are mentioned in a separate block. In some cases an error in the header section results in a single error report. This does not mean there are no other errors found. In such a case the tool stopped the validation as the error could be an error which affects the rest of the file. Always validate your file again after adjusting an error in the header section.

4. The payment findings are all findings related to syntax errors or functional errors in the payments section. Functional errors can be the incorrect use of currencies or dates. Syntax errors are incorrect date formats and wrong use of characters.

In general it is advised to validate your format file until the tool doesn't find errors anymore and the format file passes the validation on all areas.

3. Working with FVT

3.1 Validation process

When you start-up FVT using the url
https://www.ingsepa.com/formatvalidationtool/en/ you will enter
the homepage. Here you can enter your username and password (1)
provided by ING to access the actual validation tool.

On the left you see a fixed menu which will appear throughout the
whole validation process. Please read the disclaimer carefully before
starting the validation process. It is presented directly after you
login (2), but you can also find the disclaimer at the bottom of the
page. To log on enter the username and password and click 'login'.
After accepting the disclaimer you will access the tool and you can
start validating a file.

3.2 Selecting a format

The first step in the process is selecting the format you wish to
validate. This format should be exactly the same
format which you used for creating your test file. You can
select a format by clicking the link (1). You will be directed to
the next step in the process. Please notice that in the top right corner
of the screen you can see you are logged in (2). If you are finished
you can use the logoff link to exit the application.

3.3 Select channel

The channel selection box (1) is a redundant feature. In a next
release of the tool this feature will be removed. The channel
selection box currently has no effect on validations done in the
chosen validation service.

3.4 Uploading and validating a file

The third step is selecting the file you wish to validate. By clicking
the "browse" button (1) you will open an explorer window (2) from
which you can browse to the file you wish to validate. Select the
file, check your channel parameter (3) and click the "validate"
button. A window pops up which confirms the file is being validated.
This can take some time depending on the size of your file. (Please
be aware that there is a limit for the time your browser will wait for
a response). When the application is ready it will generate a report
report with all findings

3.5 The report

Eventually a report will be presented with all findings. This report shows a small summary and findings per section.

1. Summary section showing the (1) number of transactions and amount found and the number of errors and warnings found.
2. Structure elements section (2), which shows all the structure errors and warnings. This means incorrect use of tags and incorrect use of tag order.
3. Header elements section (3), this section is validated separately from the payments section as it is also a different section in the format description.
4. Payment elements section (4) , which shows the different errors in all the single payments.
5. Disclaimer (5) explaining the terms for the information the tool provides.

Section two, three and four include the test on the correct use of content in the tags. For example the format for BIC and IBAN, but also field length, dates and correct use of dates.

If you receive a pass for this three sections your file has been approved and you can continue your test process.

The following validation services are available.

SEPA credit transfer	Additional information
pain.001.002.03	
Germany XML SEPA Pain001 Credit Transfer ZKA	German SEPA XML files are renamed to 'pain.001.002.03' instead of the standard 'pain.001.001.03'. ING supports both versions.
pain.001.001.03	
Austria XML SEPA Pain001 Credit Transfer STUZZA	
Belgium XML Generic Pain001 Credit Transfer Febelfin	This format type is used for both SEPA payments as International non-SEPA payments in Belgium.
Belgium XML SEPA Pain001 Credit Transfer Febelfin	This is the standard SEPA credit transfer format type, only for SEPA payments.
France XML SEPA Pain001 Credit Transfer GUF	
Germany XML SEPA Pain001 Credit Transfer ZKA	This format type is the same as the 'pain.001.002.03' format type, except for the name, which is 'pain.001.001.03'.
Global XML SEPA Pain001 Credit Transfer EOM for BE/DE/FR/NL	Please inform at your ING contact if you are allowed to use this format type. This is a new format type allowing SEPA payments for the four countries mentioned.
Ireland XML SEPA Pain001 Credit Transfer IPSO	
Luxembourg XML SEPA Pain001 Credit Transfer	
PAF XML Pain001 Credit Transfer	Please inform at your ING contact if you are allowed to use this format type. This format type is used for mixing different payment types, including SEPA payments, International non-SEPA payments, domestic non-SEPA payments and third bank payments.

Portugal XML SEPA Pain001 Credit Transfer BdP	
Spain XML SEPA Pain001 Credit Transfer AEB	
The Netherlands XML SEPA Pain001 Credit Transfer NVB	This is the standard SEPA 'bulk payment' format type. Bulk payments are sent to ING via ING FTP Service or SWIFTNET FileAct.
The Netherlands XML SEPA Pain001 Credit Transfer NVB for IBP MECT	This format type is specific for InsideBusiness Payments Multiple SEPA Credit Transfers.
The Netherlands XML SEPA Pain001 Credit Transfer NVB for IBP SECT	This format type is specific for InsideBusiness Payments Single SEPA Credit Transfers.
The Netherlands XML SEPA Pain001 Credit Transfer NVB for The TAX department	This format type is specific for the TAX department.
XML Pain001 Credit Transfer for IBP Generic	This format type is used for mixing of Single payments including SEPA payments, International non-SEPA payments and domestic non-SEPA payments.
pain.001.001.02	
Belgium XML SEPA Pain001 Credit Transfer Febelfin	
PAF XML Pain001 Credit Transfer	Please inform at your ING contact if you are allowed to use this format type. This format type is used for mixing different payment types, including SEPA payments, International non-SEPA payments, domestic non-SEPA payments and third bank payments.
The Netherlands XML SEPA Pain001 Credit Transfer NVB for IBP MECT	This format type is specific for InsideBusiness Payments Multiple SEPA Credit Transfers.
The Netherlands XML SEPA Pain001 Credit Transfer NVB for IBP SECT	This format type is specific for InsideBusiness Payments Single SEPA Credit Transfers.
The Netherlands XML SEPA Pain001 Credit Transfer NVB for The TAX department	This format type is specific for the TAX department.
pacs incoming credit file	
FI XML SEPA ICF Credit Transfer EBA RB4.0 + RB5.0	Format type specific for financial institutions.

SEPA direct debit	
pain.008.002.02	
Germany XML SEPA Pain008 Direct Debit ZKA	
pain.008.001.02	
Austria XML SEPA Pain008 Direct Debit STUZZA	
Belgium XML SEPA Pain008 Direct Debit Febelfin	
France XML SEPA Pain008 Direct Debit GUF	
Germany XML SEPA Pain008 Direct Debit ZKA	
Luxembourg XML SEPA Pain008 Direct Debit	
Spain XML SEPA Pain008 Direct Debit AEB	
The Netherlands NVB SEPA Direct Debit Transfer for MINGZ	This format type is specifically for the channel Mijn ING Zakelijk.
The Netherlands XML SEPA Pain008 Direct Debit NVB	This is the standard SEPA 'bulk collections' format type. Bulk collections are sent to ING via ING FTP Service or SWIFTNET FileAct.
The Netherlands XML SEPA Pain008 Direct Debit NVB IBP	This format type is specifically for the channel InsideBusiness Payments.
pain.008.001.01	
Belgium XML SEPA Pain008 Direct Debit Febelfin	
pacs incoming debit file	
FI XML SEPA IDF Direct Debit EBA RB4.0 + RB5.0	Format type specific for financial institutions.

These are four errors and warnings which need some additional information. We are working on improving these messages.

Error/Warning

XML Validation Error

cvc-elt.1: Cannot find the declaration of element 'Document'.

```
2<Document
xmlns="urn:iso:std:iso:20022:tech:xsd:pain.008.001.02">
3    <CstmrDrctDbtInitn>
4        <GrpHdr>
```

This usually means that the tag '<Document>' includes either a typo or an incorrect reference to the xsd type. In this case the xsd type is 'xsd:pain.008.001.02'. A very common mistake. Please check if you inserted the correct '<Document>' definition or if you selected the correct validation service.

XML Validation Warning

Character(s) which don't comply with the allowed character set has been found.

Character	Times found
&	1
;	1

The valid character set consists of the following characters:

a b c d e f g h i j k l m n o p q r s t u v w x y z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
0 1 2 3 4 5 6 7 8 9
/ - ? : ( ) . , ' +
Space

Not respecting this character set could lead to rejections. Please correct your data and re-invoke the validation process.

This check on characters is a validation <u>warning</u>. Meaning that processing of this file can't be guaranteed when using these characters. The advice is to avoid the usage of 'special characters' as much as possible. However, ING does support the advice of the European Payments Council for character conversion. This means ING allows all utf-8 compliant characters. (following format types are excluded and only support Basic Latin Characters: The Netherlands SEPA Credit Transfer via FTP/SWIFT, The Netherlands SEPA Credit Transfer for IBP M-ECT and The Netherlands SEPA Direct Debit for IBP). All other characters (non-utf-8) <u>can</u> lead to rejections.

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Germany XML SEPA Pain001 Credit Transfer ZKA

An error has occurred: The uploaded file contains invalid XML: .

This error occurs when a fatal structure error has been made. We are working on providing more information about this type of error. Our advice is to open the file in a web browser like Internet Explorer. The web browser often tries to read the file and shows where it stopped reading because of the fatal error (be sure to rename the file to a '.xml.' extension. Example:

The XML page cannot be displayed

Cannot view XML input using XSL style sheet. Please correct the error and then click the Refresh button, or try again later.

A name contained an invalid character. Error processing resource 'file:///C:/Users/z808741/Desktop/5106_UTF 8.XML'. Line 4...

<Grp Hdr>

As you can see a 'space' was used in the element <GrpHdr>, which is not allowed.

The file you have submitted contains too many errors and cannot be validated. Please review/correct the file and submit it again for validation. If you need assistance, please contact your ING representative.

This message is shown when a file includes too many errors. Often this occurs when a production file is tested in the tool. Our advice is to use small test files with 1-10 payments and 1-3 batches and avoid the usage of production data in this tool.

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